

**United States District Court**  
**EASTERN DISTRICT OF TEXAS**  
**TYLER DIVISION**

L.C. ELDRIDGE SALES CO., LTD., ET AL	§	
	§	
v.	§	No. 6:11cv599
	§	
AZEN MANUFACTURING	§	
PTE., LTD., ET AL	§	

**MEMORANDUM OPINION AND ORDER**

Before the Court is Defendants’ Motion for Summary Judgment of Indefiniteness (Doc. No. 113). Also before the Court are Plaintiffs’ response (Doc. No. 117) and Defendants’ reply (Doc. No. 120). Having considered the briefing and all relevant papers and pleadings, the Court finds that Defendants’ motion (Doc. No. 113) should be **DENIED**.

**I. BACKGROUND**

This is a patent infringement suit. L.C. Eldridge Sales Co., Ltd. and Leseman Davis LLC (Plaintiffs) allege infringement of all 52 claims of U.S. Patent No. 7,707,828 (the ’828 Patent) by Defendants Azen Manufacturing Pte, Ltd., Jurong Shipyard Pte, Ltd., Sembcorp Marine Ltd., Twin City Fan Companies, Ltd., Atwood Drilling, Inc., Atwood Oceanics Management, LP, Seadrill Americas, Inc., Sembcorp Holding, LLC, Sembcorp-Sabine Industries, Inc., and Sembcorp-Sabine Shipyard, Inc. (Defendants).<sup>1</sup>

Plaintiffs and Defendants are involved in the offshore oil drilling industry. The ’828 Patent issued on May 4, 2010, and has a priority date of December 19, 2005, based on a provisional patent application. The patent is entitled “Method and Apparatus for Manipulating and Diluting Internal Combustion Engine Exhaust Gases.” The Abstract of the ’828 Patent states:

---

<sup>1</sup> Defendant Friede & Goldman, LLC has been dismissed from the case (Doc. No. 148).

A system for manipulating engine exhaust gases away from inhabited areas comprises an air pressurization system coupled in fluid communication to a housing. The housing is adapted to reside adjacent a terminal portion of an exhaust pipe so that pressurized air injected into the housing entrains the exhaust gases and disperses them from the housing.

In general terms, the '828 Patent is intended to move harmful engine exhaust away from offshore oil drilling rigs. It discloses a system for increasing the speed of the exhaust gases so that they travel farther away from the exhaust pipe (and thus farther away from workers and equipment). The '828 Patent describes a housing installed around an exhaust pipe and an air pressurization system that injects air into the housing. The injected air mixes with the exhaust, and the combined flow travels away from the exhaust pipe at an increased speed.

Defendants' motion for summary judgment of indefiniteness is directed to Claims 1, 3, 17, 29, 39, 43, and 51 and related dependent claims of the '828 Patent.

## II. LEGAL STANDARD

Claim indefiniteness is a legal determination that arises from the Court's duty to construe claims. *BJ Services Co. v. Halliburton Energy Servs., Inc.*, 338 F.3d 1368, 1372 (Fed. Cir. 2003). In the face of an allegation of indefiniteness, general principles of claim construction apply. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007). The test for indefiniteness is whether a person of ordinary skill in the art would understand all of the language in the claims—that is, understand what is claimed—when they are read in light of the specification. *Id.*; *see also Morton Int'l Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993). If the skilled artisan would understand the bounds of the claim when read in light of the specification, then the claim satisfies the definiteness requirement of 35 U.S.C. § 112, ¶ 2. The definiteness requirement does not mandate absolute clarity. The proper inquiry is whether the terms can be given any reasonable meaning, and a difficult issue of claim construction does not automatically require a

finding of indefiniteness. *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). Even if the claim construction effort is a tough one, when the meaning of the claim is discernible, the claim is not indefinite. *Id.* To meet their evidentiary burden for finding indefiniteness, Defendants must show facts that support the invalidity conclusion by clear and convincing evidence. *Young*, 492 F.3d at 1345.

### **III. DISCUSSION**

#### **A. Mixed Method and Apparatus (Claims 1, 3, 29, and 51)**

Although “functional limitations” are permissible in an apparatus claim, a patent claim that “recites both a system and a method for using that system” is invalid under 35 U.S.C. § 112, ¶ 2. *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005).

Defendants argue that “Claim 1 describes a method for using the system that provides for combining the exhaust gases and the method by which those exhaust gases are expelled from the housing of the system” (Doc. No. 113 at 6). Defendants similarly argue that Claim 3, which depends from Claim 1, recites creating a pressure reduction of the exhaust gases (Doc. No. 113 at 7). Claim 29, Defendants argue, is an apparatus claim that recites a method step “whereby air is injected into the housing . . . and the injected air entrains the exhaust gas” (Doc. No. 113 at 7). Defendants emphasize that “the invention does not merely state that it is capable of performing the acts of ‘injecting’ or ‘entraining;’ the claim requires those methods be performed for the claim to be infringed” (Doc. No. 113 at 7). Finally, Defendants argue that Claim 51 is similar to Claim 29 but is even more ambiguous because Claim 51 recites that air “may be” injected (Doc. No. 113 at 7).

Plaintiffs respond that whereas Defendants rely upon *IPXL Holdings*, which prohibits claims “directed to both the apparatus and using the apparatus itself,” “more recent cases

reaffirm that using functional language, i.e., verbs, to describe the capabilities of a claimed apparatus is perfectly permissible” (Doc. No. 117 at 2–3, 12).

Defendants reply that “the indefiniteness inquiry is concerned with whether the bounds of the invention are sufficiently demarcated” (Doc. No. 120 at 1 (quoting *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 519 (Fed. Cir. 2012))). Defendants argue that the cases relied upon by Plaintiffs are distinguishable because “in the case of the ’828 Patent, the Plaintiffs have added a method step or limitation that describes the manner in which the system is used, and have not merely identified an underlying environment” (Doc. No. 120 at 3).

Claim 1 is representative and recites (emphasis added):

1. A system for manipulating engine exhaust away from a structure comprising:
  - a housing coupled to a terminal portion of an exhaust pipe, the exhaust pipe associated with an engine on the structure through which exhaust gasses flow at a first velocity; and
  - a separately motorized ambient air pressurization system coupled to the housing in fluid communication therewith and *configured to inject pressurized air into the housing* such that the injected air *combines* with the exhaust gasses exiting the exhaust pipe and the combined gasses exit the housing at a second velocity greater than the first velocity and away from the structure.

’828 Patent at 8:57–9:2. *IPXL Holdings*, relied upon by Defendants, applies when the claim language itself “recite[s] both a system that allow[s] a user to practice a method step and the user’s practicing the method step.” *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270, 1277 (Fed. Cir. 2012). In addition, “[i]t is well-established that for a limitation to introduce a method step, the limitation must require action, or ‘actual use’ of something instead of merely requiring or setting forth a particular capability.” *Eolas Techs., Inc. v. Adobe Sys., Inc.*, 810 F. Supp. 2d 795, 812 (E.D. Tex. 2011) (citing *Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367, 1374–75 (Fed. Cir. 2008)).

Here, Claim 1 recites that the air pressurization system is “*configured to inject* pressurized air into the housing,” not that the step must actually be carried out. Therefore, *IPXL Holdings* does not apply. *See HTC*, 667 F.3d at 1277; *see also Microprocessor Enhancement*, 520 F.3d at 1374. Further, the appearance of “combines” in Claim 1 is tied to the recitation of “configured to inject,” so “combines” does not refer to an active method step either.

Claim 3, likewise, recites:

3. The system of claim 1, wherein the injected air creates a pressure reduction in the exhaust gasses.

’828 Patent at 9:5–6. Although Claim 3 recites “creates a pressure reduction,” “the injected air” that purportedly does so is merely the subject of configuration in Claim 1, as noted above, and does not support finding an active method step.

Claim 29 recites (emphasis added):

29. An apparatus for increasing the velocity of an exhaust gas, comprising:  
 a body comprising  
     a housing having an exit portion comprising a converging nozzle; and  
     a conduit associated with an engine on a structure and disposed within and coupled to the housing such that an annular region is defined between an inside surface of the housing and an outside surface of the conduit;  
 an air pressurization system having a discharge portion coupled to the body and in fluid communication with the annular region, the discharge portion having an area that is approximately the same as or more than the annular region area; and  
*whereby air is injected into the housing by the air pressurization system at a velocity greater than a velocity of the exhaust gas exiting the conduit and the injected air entrains exhaust gas and the combined fluid exits the converging nozzle directly into the atmosphere in a substantially cylindrical pattern and away from the structure.*

'828 Patent at 10:12–32. In general, a “whereby” clause is not limiting. “A ‘whereby’ clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim.” *Tex. Instruments Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993); *accord Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1319 (Fed. Cir. 2003); *see also Lonestar Inventions LP v. Nintendo of Am., Inc.*, No. 6:07CV261, 2009 WL 1011734, at \*9 (E.D. Tex. Apr. 14, 2009) (finding that the term “said first and second nodes form two opposing nodes” appearing in a whereby clause “add[ed] a meaningful limitation” because the limitation appeared nowhere else in the claim); *see also Scheinman v. Zalkind*, 112 F.2d 1017, 1019 (C.C.P.A. 1940) (noting that although a whereby clause can be limiting, “ordinarily a whereby clause is generally used to merely set forth the results achieved by the structure included”).

Here, the parties appear to assume that the “whereby” clause in Claim 29 is a limitation. Nonetheless, the use of “whereby” suggests that the recitation of “air is injected” is expressing a result of the configuration of the apparatus, not an actual method step. The recitation of “air is injected,” as opposed to “injecting,” further supports finding that Claim 29 does not recite a mixed method and apparatus. Also, the appearances of “entrains” and “exits” in Claim 29 are tied to “the injected air.” Because the injection of air is not recited as a method step, “entrains” and “exits” likewise do not constitute method steps.

Finally, Claim 51 recites (emphasis added):

51. An apparatus for manipulating an exhaust gas, comprising:
  - a body comprising
    - a housing having an exit portion, the exit portion comprising a converging nozzle;
    - a conduit disposed within at least a portion of the housing and coupled to the housing such that an annular

region is defined between an inside surface of the housing and an outside surface of the conduit; and the conduit adapted to couple with a terminal portion of an exhaust gas pipe from an exhaust gas-producing engine on a structure;

an air pressurization system comprising a separately motorized air mover and a discharge section, the air pressurization system coupled to the body in sealed arrangement such that the air pressurization system is in fluid communication with the annular region, and has a discharge section area that is approximately the same as or more than the annular region area; and

*whereby air may be injected into the body by the air pressurization system and the combined air and exhaust gas are expelled through the converging nozzle and directed away from the structure.*

'828 Patent at 11:37–12:18. Claim 51 is thus similar to Claim 29 for purposes of Defendants' invalidity challenge. The Court rejects Defendants' challenge to Claim 51 for the same reasons it rejected Defendants' challenge to Claim 29.

Accordingly, Defendants' motion for summary judgment of invalidity on the basis of mixed method and apparatus claims is denied.

**B. “adequately manipulate” (Claims 17 and 43)**

Defendants argue that “[b]ecause the term ‘adequately manipulate[’] is vague, ambiguous, and lacks any definition in the specification or the context of the '828 Patent as a whole, claims 17 and 43 are invalid due to indefiniteness” (Doc. No. 113 at 8). Defendants argue that “[n]either of the terms ‘adequately’ and ‘manipulate’ appear in the specification in any variant format” (Doc. No. 113 at 8). Defendants also argue that the term “adequate” is “vague, ambiguous, and susceptible to subjective interpretation as to how much is ‘adequate’ or satisfactory and how much is ‘too much’ or ‘too little’” (Doc. No. 113 at 9). As to the term “manipulated,” Defendants state that “[t]he '828 Patent describes many actions that exhaust gases are subject to, including increasing their velocity, expelling the combined fluid, and

entraining the exhaust gases” (Doc. No. 113 at 9). Defendants argue that “Claims 17 and 43, however, are insufficient to understand the manner in which the exhaust gases are being ‘manipulated’” or what kind of manipulation is adequate (Doc. No. 113 at 9).

Plaintiffs respond to Defendants’ motion for summary judgment by arguing that forms of “adequately” and “manipulated” appear several times in the written description (Doc. No. 117 at 2, 14–15). Plaintiffs also argue that the claims themselves provide “guidance that ‘adequate manipulation’ means that the air pressurization is sufficient to discharge the exhaust gases away from a structure” (Doc. No. 117 at 13).

In support of their motion for summary judgment, Defendants reply that Plaintiffs’ proposed definition is indefinite because it fails to address the objective measure for defining the term “adequately manipulate” (Doc. No. 120 at 5).

“[W]hen faced with a purely subjective phrase . . . a court must determine whether the patent’s specification supplies some standard for measuring the scope of the phrase.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005). The specification of the ’828 Patent discloses the problem that “low exhaust gas velocity may allow wind and other weather conditions to redirect exhaust gas back toward the exhaust discharge and/or inhabited areas.” ’828 Patent at 1:48–51. The specification also discloses that “[t]he invention relates generally to *manipulating* the flow of exhaust gas . . . away from a specific area.” ’828 Patent at 1:25–29 (emphasis added). This manipulation is disclosed as being achieved using air, such as ambient air. ’828 Patent at 3:15–16 (“manipulating engine exhaust gas with ambient air”). Further, the Abstract of the ’828 Patent refers to “[a] system for manipulating engine exhaust gases away from inhabited areas,” and the title of the ’828 Patent is “Method and Apparatus For Manipulating And Diluting Internal Combustion Engine Exhaust Gases.”



As to how much manipulation is “adequate,” the specification discloses that “[d]etermining how much pressurization from the air pressurization [system] may be needed to *adequately disperse the exhaust gases* may also be done, as well as determining the current speed of an engine, and/or determining one or more weather conditions.” ’828 Patent at 3:46–52 (emphasis added). The specification also explains that “[t]he inventions disclosed and taught herein are directed to . . . improving dispersal and dilution of the engine exhaust gas *to reduce or prevent contamination of inhabited areas*.” ’828 Patent at 1:65–2:3 (emphasis added). Further, “exhaust gas exit velocity may be sufficiently high to effect adequate direction or dispersal of the gases under certain weather conditions.” ’828 Patent at 7:13–15. Thus, the adequacy of the manipulation of exhaust gases will depend upon, for example, exhaust gas velocity, weather conditions, and the location of the exhaust pipe with respect to other equipment and inhabited areas. Finally, the ’828 Patent states:

It is preferred that the nozzle 24 be designed and constructed using conventional techniques to accelerate the fluid discharge velocity and to maintain a tight, fairly cylindrical, high velocity fluid flow away from the exit portion 18 at a velocity significantly greater than that of the prevailing wind velocity.

\* \* \*

It is preferred that the system 10 be designed such that the engine exhaust can be propelled from the end of the nozzle 18 some 50 feet to 100 feet, or more, depending on prevailing wind speed, in a tight substantially cylindrical air pattern or column for maximum manipulation and dilution into the ambient air.

’828 Patent at 4:7–12; 5:2–7. Together with the other above-cited disclosures, these disclosures of “a velocity significantly greater than that of the prevailing wind velocity” and “propelled . . . some 50 feet to 100 feet” provide general, objective points of reference from which the finder of fact can apply the term “adequately manipulate.”

The case of *Hearing Components, Inc. v. Shure Inc.*, is analogous. 600 F.3d 1357 (Fed. Cir. 2010). In *Hearing Components*, the Federal Circuit reversed a finding of indefiniteness as to “readily installed and replaced by a user” where the specification explained that “[the guard] is simple to install, easy to remove, and convenient to replace, even for older persons. The guard is inexpensive and requires no tools for installation or removal.” *Id.* at 1368. The court found that this disclosure provided “some standard for measuring” the degree of “readily.” *Id.*

Because the specification provides “some standard for measuring” the degree of “adequately,” the Court rejects Defendants’ argument that the term “adequately manipulate” is indefinite. *Id.*

### **C. Antecedent Basis for “Body” and “Conduit” (Claims 29, 39, 51, and 52)**

Defendants argue that the terms “body” and “conduit” in Claims 29, 39, 51, and 52 lack antecedent basis and therefore render those claims invalid as indefinite (Doc. No. 113 at 9; Doc. No. 120 at 1 n.1). Defendants argue:

Although it is not dispositive of the issue, neither “body” nor “conduit” appear outside of the claims of the ’828 Patent. More importantly, however, these claims lack a reasonably ascertainable antecedent basis. Unlike *Energizer Holdings[, Inc. v. Int’l Trade Comm’n]*, 435 F.3d 1366, 1370 (Fed. Cir. 2006), where the Federal Circuit concluded that a reference to “anode gel” was “by implication[,]” the antecedent basis for the challenged term of “said zinc anode,” 435 F.3d at 1371, no such implication is present here.

(Doc. No. 113 at 11). As to “body” in Claim 29, for example, Defendants argue:

Without an antecedent basis, it is unclear how the apparatus described in claim 29 (or 39 or 51) differs from the system claimed in claim 1. A “body” is not a housing, nor is it an “air pressurization system.” It is more than those elements, but the ’828 is indefinite as to what is the purported sum of the elements of claim 29.

(Doc. No. 113 at 12). As to the term “conduit,” Defendants argue:

As it appears in claim 29, it is in some unknown way “associated with an engine on a structure.” This association and the resulting device is vague and unspecified. The nature of the “association” is unclear.

(Doc. No. 113 at 12).

Plaintiffs respond that both “body” and “conduit” are first used in Claims 29, 39, 51, and 52 with the indefinite article, “a” (Doc. No. 117 at 16–17). Plaintiffs argue that “Defendants’ reliance upon *Energizer Holdings* is puzzling” because “[i]n *Energizer Holdings* the claims lacked an explicit antecedent basis—the claims first referred to ‘an anode gel’ and later referred to ‘said zinc anode’” (Doc. No. 117 at 17 (citing 435 F.3d at 1369)). Plaintiffs continue that “[t]o the extent Defendants argue that the terms ‘body’ and ‘conduit’ are incapable of construction because ‘body’ and ‘conduit’ do not appear in the specification, that argument is similarly meritless” because “[b]oth ‘body’ and ‘conduit’ are easily understood words that do not render the claims insolubly ambiguous” (Doc. No. 117 at 18). Finally, as to Defendants’ argument that it is not clear how Claims 29, 39, 51, and 52 are different from Claim 1, Plaintiffs respond that “Plaintiffs are aware of no case or statute that supports any form of any rule that claims can be found indefinite through comparisons to other claims” (Doc. No. 117 at 19).

Defendants reply that “because both ‘body’ and ‘conduit’ lack any reasonably ascertainable basis in the patent, ‘one of ordinary skill in the relevant art [can]not discern the boundaries of the claim[s]’ containing these terms” (Doc. No. 120 at 5 (quoting *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 783 (Fed. Cir. 2010))). Defendants reiterate that “[b]ecause neither of these terms appear in the specification, in any of the patentees’ preferred embodiments or elsewhere, a person skilled in the art cannot ‘understand what is claimed’” (Doc. No. 120 at 6 (quoting *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 275 F. App’x 969, 973

(Fed. Cir. 2008))). Defendants conclude that “as defined by the Plaintiffs, these terms are so broad as to render them meaningless” (Doc. No. 120 at 7).

Claim 29 is representative and recites (emphasis added):

29. An apparatus for increasing the velocity of an exhaust gas, comprising:  
     *a body* comprising  
         a housing having an exit portion comprising a converging nozzle; and  
     *a conduit* associated with an engine on a structure and disposed within and coupled to the housing such that an annular region is defined between an inside surface of the housing and an outside surface of the *conduit*;  
     an air pressurization system having a discharge portion coupled to the *body* and in fluid communication with the annular region, the discharge portion having an area that is approximately the same as or more than the annular region area; and  
     whereby air is injected into the housing by the air pressurization system at a velocity greater than a velocity of the exhaust gas exiting the *conduit* and the injected air entrains exhaust gas and the combined fluid exits the converging nozzle directly into the atmosphere in a substantially cylindrical pattern and away from the structure.

’828 Patent at 10:12–32. The terms of a claim require an antecedent basis. *Energizer Holdings*, 435 F.3d at 1370. There can be a lack of an antecedent basis either because the claim term is used in the claims with a definite article without first introducing the term with an indefinite article or because the terms themselves are unclear and are not explained by the specification. *See* MPEP § 2173.05(e) (8th ed. Rev. 9, Aug. 2012).

In *Energizer Holdings*, the Federal Circuit reversed a finding of indefiniteness because the term “said zinc anode” had antecedent basis by implication, namely in the patent’s prior recitation of “an anode gel.” 435 F.3d at 1370–71. Here there is an explicit antecedent basis in the claims, namely “a body” and “a conduit.” Defendants rely upon *Energizer Holdings* to argue

that there is no implicit antecedent basis, but because the antecedent basis in the '828 Patent is explicit *Energizer Holdings* is inapplicable.

Because “body” and “conduit” are broad, generic terms that have explicit antecedent bases in the claims in which they appear, neither “body” nor “conduit” are indefinite. Further, Defendants have neither submitted nor cited any evidence that a person of ordinary skill in the art would be unable to understand “body” or “conduit” in the context of the '828 Patent (*see* Doc. No. 113 at 9–12; Doc. No. 120 at 5–8). “Attorney argument is no substitute for evidence.” *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 424 F.3d 1276, 1284 (Fed. Cir. 2005). Accordingly, the Court rejects Defendants’ indefiniteness challenge as to the terms “body” and “conduit,” and Defendants’ motion for summary judgment is denied in that regard.

#### **IV. Conclusion**

For the reasons set forth above, Defendants’ motion for summary judgment of indefiniteness (Doc. No. 113) is **DENIED**.

**IT IS SO ORDERED.**

**SIGNED this 23rd day of May, 2013.**

  
MICHAEL H. SCHNEIDER  
UNITED STATES DISTRICT JUDGE